

### **REMARKS**

In response to the Office Action mailed January 31, 2006, Applicant respectfully requests reconsideration. To further the prosecution of this application, each of the rejections has been carefully considered and is addressed below. The application as presented is believed to be in condition for allowance.

Initially, Applicant thanks Examiner Gregory for the courtesies extended during the telephone interview with Applicant's representative Scott J. Gerwin (Reg. No. 57,866) on March 14, 2006. The substance of this interview is summarized herein.

### **Rejections Under 35 U.S.C. §112**

The Office Action rejects claims 1-20 under 35 U.S.C. §112, second paragraph, asserting that certain terms are unclear in context. Specifically, the Office Action asserts that the terms "configuration," "context," "relative cost," "scan solution," "first receiver configuration," "second receiver configuration," and "third receiver configuration" are unclear in context. Applicant respectfully disagrees with this assertion.

During the telephone interview, Applicant explained that one embodiment disclosed in Applicant's specification relates to selecting a hardware configuration for a receiver. Applicant explained that in some situations, when in a military aircraft or other vehicle, it may be desirable to observe enemy signals (e.g., radar) that are capable of detecting the vehicle (Applicant's specification page 1, lines 28-31). Often, there may be multiple threats but only a finite number of resources to detect them (Applicant's specification, page 2, lines 3-4). Thus, there is a need to scan the frequency spectrum in an efficient manner to detect all of the signals of interest (Applicant's specification, page 2, lines 6-7). The strategy that is used to scan the frequency spectrum is referred to as the "scan strategy" or "scan solution" (Applicant's specification, page 7, lines 1-5; page 9, lines 2-9 and lines 19-22). The receiver that is used to implement the scan strategy may have hardware controls that allow for various hardware configurations of the receiver. The hardware configuration of the receiver may effect which signals the receiver can detect in a given time period or dwell (Applicant's specification, page 24, lines 16-26). In addition, the selection of certain hardware configurations may increase or decrease the number of dwells in the scan strategy which, in turn, affects the total cost of the scan strategy (Applicant's

specification, page 29, line 25 – page 32, line 18). Thus, the configuration that results in the solution with the lowest cost (measured in terms of receiver efficiency) may be selected. For example, a counter may be kept which tracks conflicts caused by different emitters requiring different hardware settings. As each dwell in a candidate scan solution is built, the conflict counter is incremented each time a conflict is encountered. The number of conflicts in each candidate scan solution may be compared and the scan solution with the lowest number of conflicts may be selected. If two scan solutions have the same number of conflicts, the one with the lower total cost of dwell execution (i.e., the sum of all dwell durations divided by their respective revisit times) may be selected (Applicant's specification, page 32, lines 10-18).

The foregoing summary is provided merely to assist the Examiner in appreciating various aspects of the present invention. The summary may not apply to each of the claims, and the language of the claims may differ in material respects from the summary provided. The Examiner is requested to give a careful consideration to the language of each of the claims and to address each on its own merits, without relying on the summary provided above. Applicants do not rely on the summary to distinguish any of the claims of the present invention over prior art.

During the telephone interview, the Examiner indicated that the summary of an embodiment addressed his concerns as to the clarity of the above-recited terms and indicated that inclusion of the summary in Applicant's response would suffice to overcome the §112 rejections based on use of these terms. Thus, in view of the foregoing, it is respectfully requested that the rejections under 35 U.S.C. §112, second paragraph of claims 1-20 on the basis of inclusion of the above-recited terms, be withdrawn.

The Office Action also rejects claims 4-7 and 14-17 under 35 U.S.C. §112, second paragraph, asserting that these claims depend from an independent claim that recites either a method or a computer-implemented method, but each fails to recite a single method step. Applicant respectfully disagrees with this rejection. 35 U.S.C. §112, fourth paragraph requires only that a dependent claim contain a reference to a claim previously set forth and specify a further limitation of the subject matter claimed. Applicant believes claims 4-7 and 14-17 satisfy this requirement and respectfully request that the rejection of these claims under 35 U.S.C. §112, second paragraph be withdrawn.

The Office Action rejects claim 6, asserting that its dependency from claim 14 is incorrect. Applicant has amended the dependency of claim 6 to depend from claim 4. Accordingly, it is respectfully requested that this rejection be withdrawn.

The Office Action rejects claims 1 and 11, asserting that their preambles each recite a method for configuring a receiver, but there is no recitation of configuring the receiver in the bodies of the claims. Applicant has amended the preambles of claims 1 and 11 to recite “[a] method for determining a receiver configuration to enable detection of a plurality of emitters.” In view of this amendment, is respectfully requested that the rejection of claims 1 and 11 under 35 U.S.C. §112, second paragraph be withdrawn.

#### **Rejections Under 35 U.S.C. §101**

The Office Action rejects claims 1-20 under 35 U.S.C. §101, asserting that claimed invention is directed to non-statutory subject matter. Specifically, the Office Action asserts that the claims are non-statutory because “they are directed merely to an abstract calculation based on compared cost of two options without any post-solutional activity of practical utility” and “[e]ach set of claims merely makes an abstract comparison of alternative configurations and makes an abstract choice of configuration without ever making a positive physical action that results from the comparison and/or choice.” During the telephone interview, the Examiner reiterated his assertion in the Office Action that the claims recite no practical application. Applicant respectfully disagrees with these assertions and respectfully traverses the rejection of claims 1-20 under 35 U.S.C. §101.

The claims meet the statutory requirement of 35 U.S.C. §101, because they are directed to a process (which is statutory under section §101) and not a mathematical algorithm or abstract idea. In addition, even if the claims are considered to recite, indirectly or directly, a mathematical algorithm or abstract idea, they nevertheless provide a practical application of such algorithm that produces a useful, tangible, and concrete result.

The Office Action asserts that the claims “are directed to merely to an abstract calculation based on compared cost of two options...” The Federal Circuit has held that unpatentable mathematical algorithms are identifiable by showing that they are merely abstract ideas constituting disembodied concepts are truths that are not useful. State Street Bank & Trust Co.

v. Signature Financial Group Inc. 149 F.3d 1368, 1373 (Fed. Cir. 1998). Claims 1 and 11, however, each recite acts of “determining a first receiver configuration to detect at least one of the plurality of emitters” and “determining a second receiver configuration to detect at least one of the plurality of emitters.” Determining a configuration of a radio receiver is not an abstract idea constituting a disembodied concept that is not useful. Rather, the acts recited in the claim are useful in determining which of multiple possible receiver configurations are best suited for a particular scan strategy. Thus, claim 1 is not directed to a mathematical algorithm, but rather is directed to a process, which is defined in 35 U.S.C. §100(b) as a “process, art or method,” and is statutory subject matter under 35 U.S.C. §101.

In addition, the claims provide a practical application that produces a useful, tangible, and concrete result. The USPTO Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (“Guidelines”) state that claims including subject matter that is a practical application of an abstract idea are eligible under §101. *See* Guidelines, page 19. Specifically, the Guidelines state that a claim provides a practical application that produces a useful, tangible, and concrete result satisfies that requirements of 35 U.S.C. §101. The practical application recited in claims 1-20 is determining an efficient configuration for a receiver. The practical application produces a result in the form a receiver configuration that is useful, tangible, and concrete. In State Street, the court held that a mathematical algorithm that yields a final share price for shares of a mutual fund is practical application of a mathematical algorithm because it produces “a useful, concrete, and tangible result” in the form of a final share price momentarily fixed for recording and reporting purposes. State Street, 149 F.3d at 1373. Thus, because the share price was useful, the claim was held to recite statutory subject matter, even though the potential uses of the share price were not recited in the claim. In the present application, the result provided by the claims is a configuration of a receiver, which useful to aid in the performance of an efficient scan solution.

There is no requirement that claims recite some “post-solutional activity,” as the Office Action appears to suggest. In State Street, the claims were directed to a system that produced a result in the form of a mutual fund share price. The claims, deemed by the Federal Circuit to recite statutory subject matter, did not recite any use for the mutual fund share prices after they were calculated. The Federal Circuit emphasized that a claim directed to a system or method

that yields a useful, concrete, and tangible result is statutory subject matter, even if the useful result is expressed in numbers.

As discussed above, claims 1-20 yield a useful, concrete, and tangible result in the form of a radio receiver configuration. In view of the foregoing, it is respectfully requested that rejection of claims 1-20 be withdrawn.

**Newly Added Claims**

Claim 21 is newly added in this application and recites no new matter. Claim 21 is similar to claim 1 but includes an additional limitation that recites, "when it is determined that the first receiver configuration is preferable over the second receiver configuration, using the first receiver configuration in the receiver."

As should be clear from the discussion above, claim 21 also satisfies the requirements of 35 U.S.C. §101.

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**CONCLUSION**

In view of the foregoing amendments and remarks, the application should now be in condition for allowance. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,  
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